

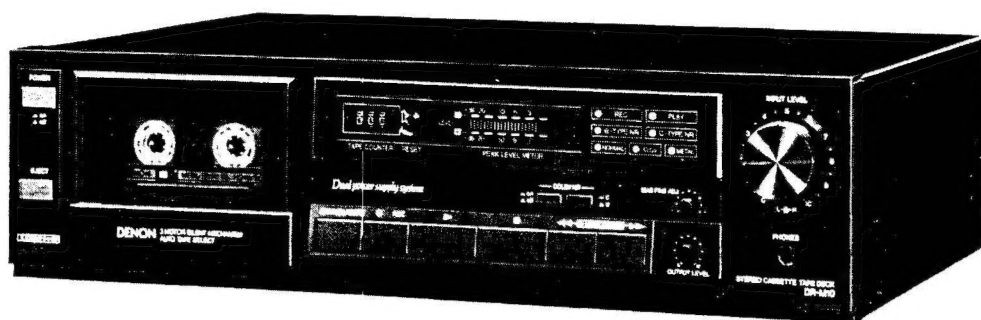
DENON

Hi-Fi Component

SERVICE MANUAL

STEREO CASSETTE TAPE DECK

MODEL DR-M10



NIPPON COLUMBIA CO., LTD.

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FEATURES

- Computer-controlled servo technology
 - Silent, soft-touch controls provide maximum ease-of-use.
 - Computer-controlled, full-logic tape controls enable fool-proof operation.
- Music Search system
- Tape counter
- Dolby-C noise reduction systems.
- Extended range, dual-color peak meters.
- Auto tape selector.
- Bias fine adjustment.

SPECIFICATIONS


●Type	Vertical tape loading 4-track 2-channel stereo cassette tape deck
●Heads	SF Record/Playback head x 1 Erase head (Ferrite) x 1
●Motors	Electronic servo DC motor (for capstan) x 1 DC motor (for reel winding) x 1 DC motor (for mechanism driving) x 1
●Tape speed	4.8 cm/sec.
●Fast forward, rewind time	Approx. 100 sec. with a C-60 cassette
●Recording bias	Approx. 105 kHz
●Overall S/N ratio (at 3% THD level)	Dolby C NR on ... over than 70 dB (CCIR/ARM)
●Overall frequency response	35~17,000 Hz (at -20 dB METAL tape)
●Channel separation	More than 40 dB (at 1 kHz)
●Crosstalk	More than 65 dB (at 1 kHz)
●Wow & flutter	0.05% wrms (JIS method)
●Inputs	
Line	77.5m V (-20 dB) input level at maximum Input impedance: 50 kohm unbalanced
●Outputs	
Line	775mV (0 dB) output level at maximum (with 47 kohm load, recorded level of 200 pwb/mm)
Headphone	1.2 mW output level at maximum (optimum load impedance 8 ohm~1.2 kohm)
●Accessories	Parallel pin cord x 2
●Power supply	50 Hz/60 Hz compatible, voltage is shown on rating label
●Power consumption	18W
●Dimensions	434 (W) x 115 (H) x 286 (D) mm
●Weight	5 kg

■ Above specifications and design styling are subject to change for improvement.

■ Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

WARNING:

1. Component parts

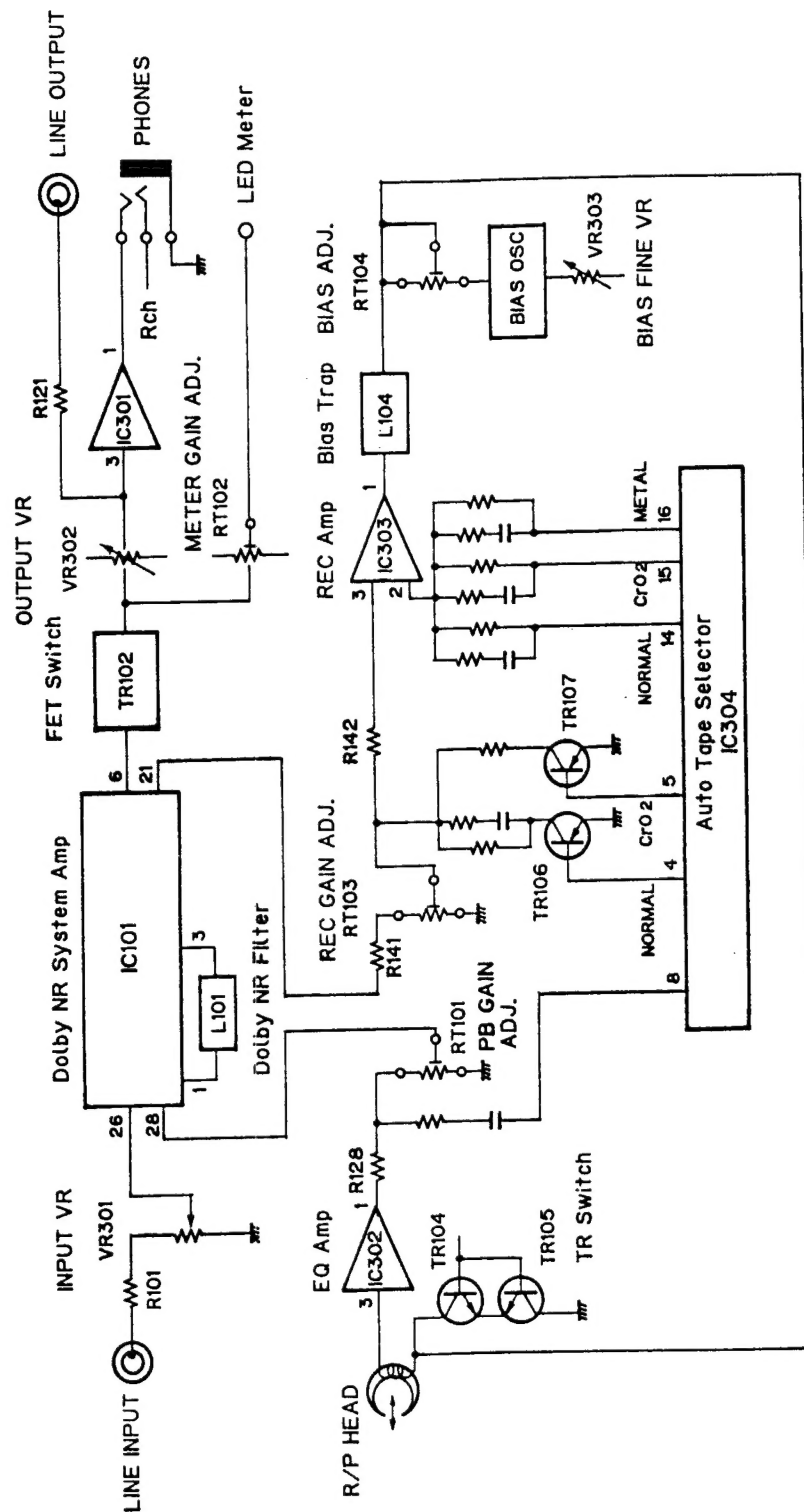
Parts marked with  and/or shading in this service manual have special characteristics important to safety. Be sure to use the specified parts for replacement.

2. Leakage current

Before returning the appliance to customer, test the leakage current when the power plug is connected. Use a calibrated (with an error of not more than 5%) leakage current tester and measure the leakage current from any exposed metal to the earth ground. Reverse the power plug polarity and test the above again.

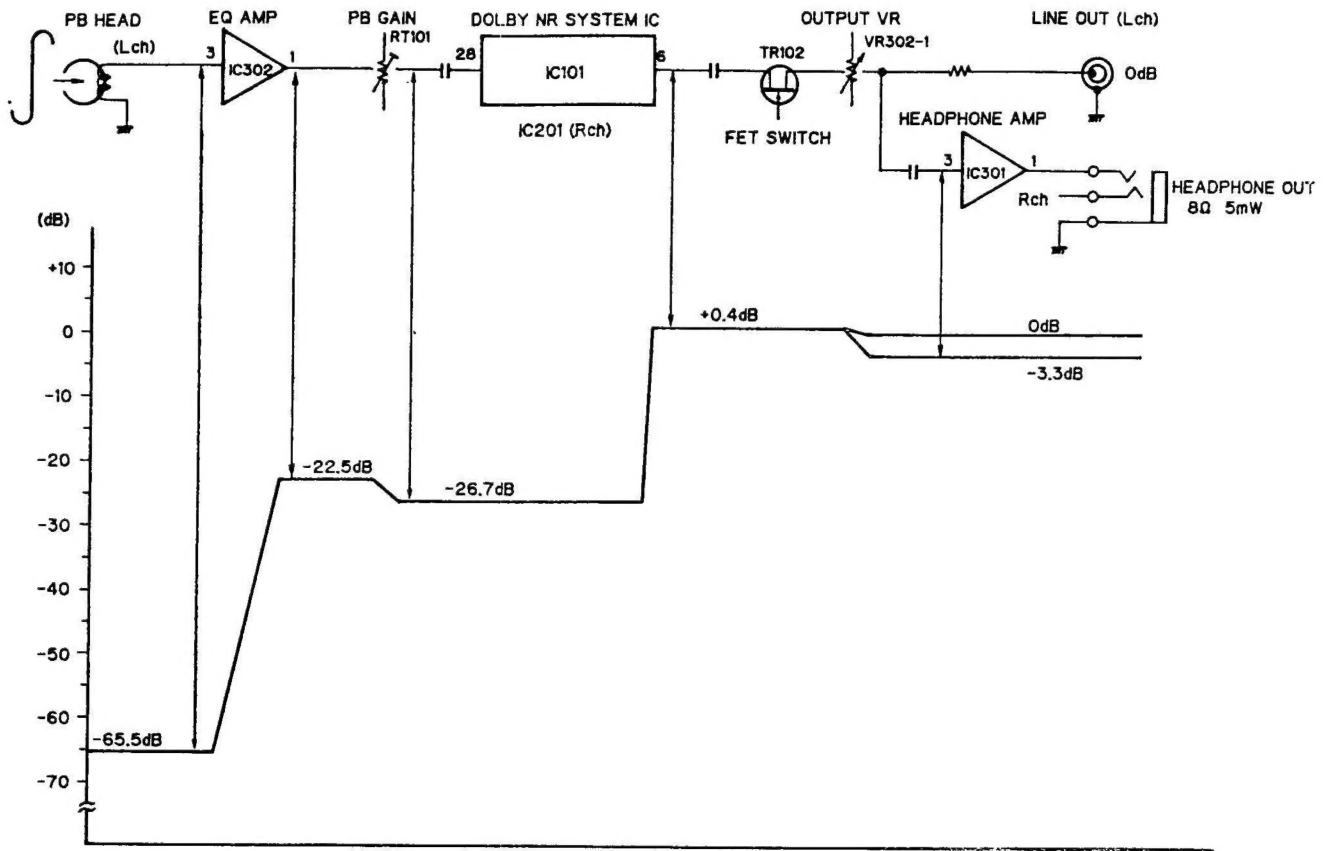
Any current measured MUST NOT EXCEED 0.5 milliamps. Corrective measure must be taken if it exceeds the limit.

BLOCK DIAGRAM

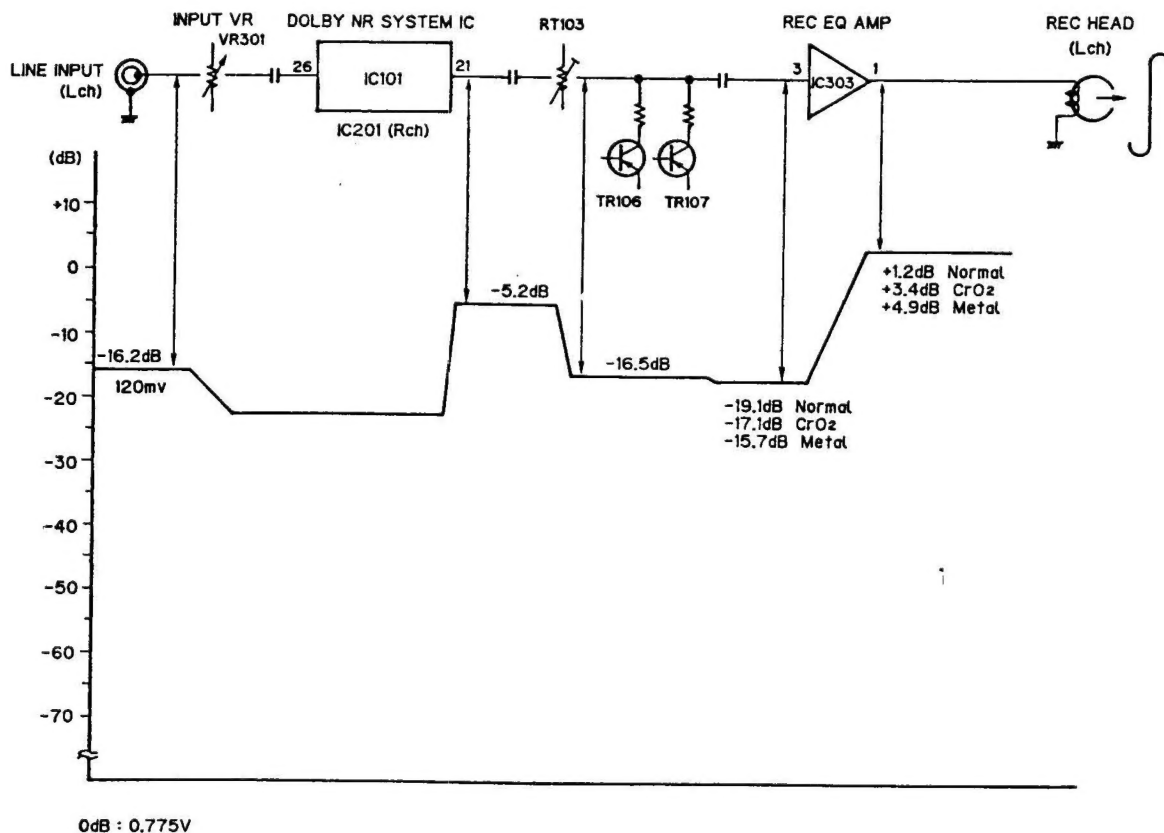


LEVEL DIAGRAM

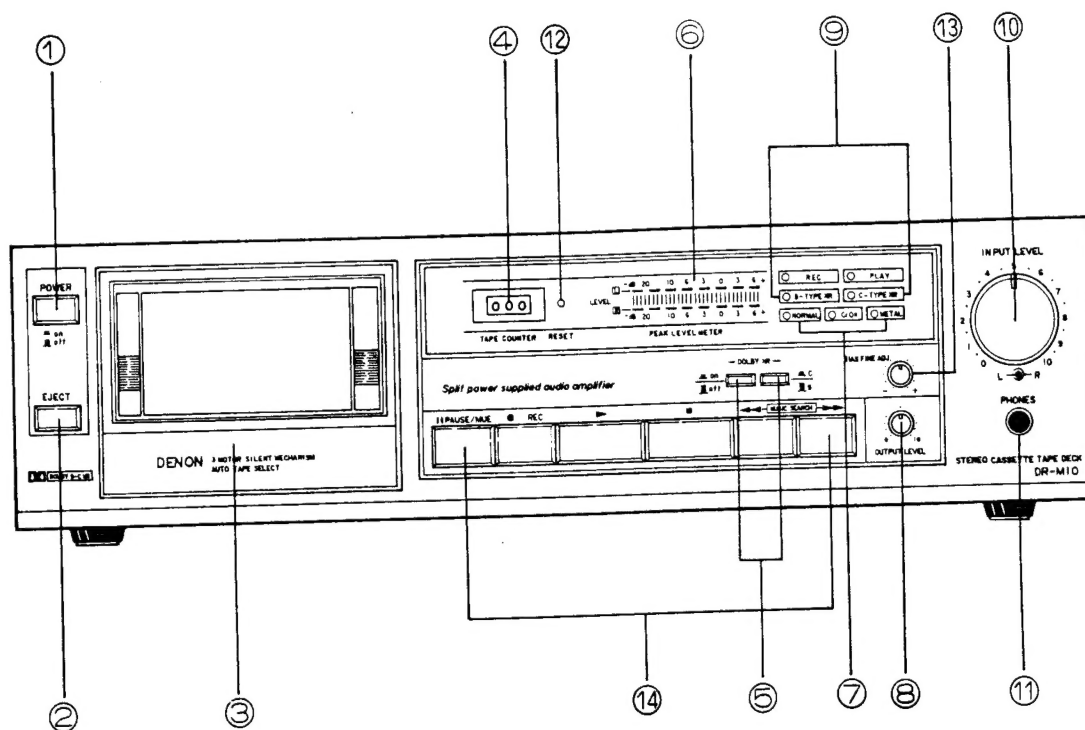
PLAYBACK SYSTEM



RECORDING SYSTEM



PART NAMES AND FUNCTIONS



1. POWER switch

Controls the supply of AC power to the deck. One push turns the deck on, a second push turns it off. The deck remains in a stand-by (non-operative) mode for approximately 4 seconds after it is switched on.

2. EJECT button

Press this button to eject the cassette. When the deck is operating (tape is running), press the stop (■) key first to stop the tape transport; then press the EJECT button.

3. CASSETTE COMPARTMENT COVER

If this compartment cover is not closed completely, the deck's transport controls will remain inoperative.

4. TAPE COUNTER

The number in the counter indicates the amount of tape wound up.

5. DOLBY NR switches

The left Dolby NR switch activates (in) or deactivates (out) the deck's Dolby noise reduction circuitry. The right switch selects between Dolby B-Type (out) or C-Type NR (in.)

6. PEAK METERS

These meters indicate recording or playback peak levels for each channel.

7. TAPE SELECT indicator

This indicator light is interlocked with the Auto Tape Select feature which automatically adjusts the deck to the type of tape in use. (NORMAL, CrO₂, or METAL).

8. OUTPUT LEVEL control

This control adjusts playback, recording monitor, and headphones output levels for the both channels simultaneously.

9. NR SYSTEM indicator

This indicator light is interlocked with the Dolby NR switch and informs the user that Dolby NR is in use as well as which (B or C) Type.

10. INPUT LEVEL controls

These controls are used to adjust recording levels for each channel. The front control is for the left channel; the rear control for the right channel.

11. PHONES jack;

For private music enjoyment without disturbing others, or for monitoring a recording, a set of headphones may be plugged in. Impedance should be from 8 to 1200 ohms.

12. RESET button

Operation of the button resets the counter to all zero.

13. Bias Fine ADJ. control (for NORMAL and CrO₂ tape)

Adjust the bias according to the tape characteristics. Standard biasing is obtained at the center click-stop position.

14. Tape transport controls

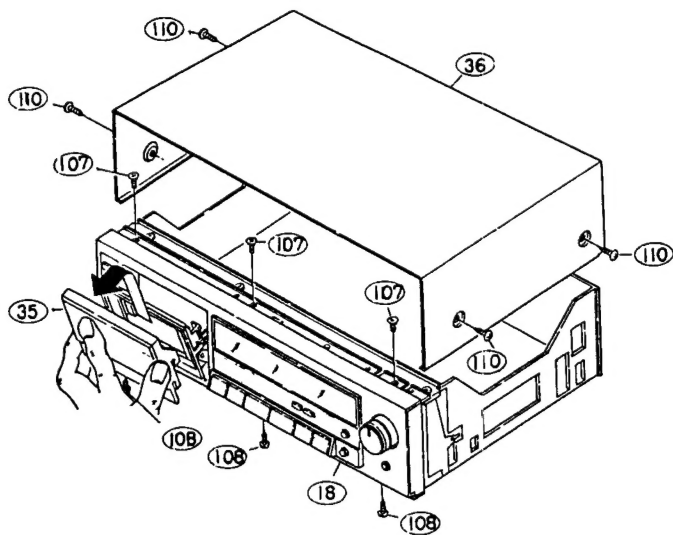
▶	▶ PLAY KEY	Press to playback tape.
■	■ STOP KEY	Press to stop tape in any mode.
◀◀	◀◀ REW KEY	Press for fast rewind.
▶▶	▶▶ FF KEY	Press for fast forward tape winding.
● REC	● RECORD KEY	To begin recording, press the RECORD and PLAY keys simultaneously. If only the RECORD key is pressed, the deck is placed in the REC PAUSE (record standby) mode.
PAUSE MUTE	PAUSE/MUTE KEY	The PAUSE key causes the tape to stop momentarily during recording or to mute the recording input to create blank (non-recorded) portions on the tape.

DISASSEMBLY INSTRUCTIONS

1. How to Remove the Front Panel

- (1) Unscrew the 4 screws (110) from both sides of the top cover (36) and take off the top cover by pulling it up.
- (2) Press the eject knob (16), open the cassette window (35) and take off, as shown in the diagram.
Note: Be careful when handling the cassette window, as it is easily scratched.
- (3) Remove the connector (5P) with lead wires, which runs from the control circuit Board (3-5) to the mechanism circuit board, from the mechanism circuit board.
- (4) Remove the counter belt (28).
- (5) Unscrew the 3 upper screws (3x8 CFTS S tight) (107) from the front panel (18) and the 3 lower screws (3x8 CBTS P tight) (108).
- (6) By pulling out the Front Panel forward and spreading out the 2 hooks holding the upper side of the Meter Circuit Board (3-4), The Meter Circuit Board can be removed and you can take out the Front Panel forward.

Note: When assembling, do so while checking to make sure the Button shaft (22) are matched perfectly with the extreme point of the push switch lever (27).



2. How to Remove the Mechanisms

- (1) Remove the top cover (36) and the front panel (18). (Refer to section 1)
- (2) Unscrew the 2 mechanism holding screws (3x8 CBTS S tight) (109) from the bottom surface of the chassis (1)
- (3) Unscrew the 2 screws (3x6 CBTS S tight) (102) holding the angle (8) and the mechanism and the 3 screws (3x8 CBTS P tight) (101) and remove the angle.
- (4) Remove the screw (3x8 CBTS P tight) (101). Holding the mechanism unit (5) to the chassis (1) from top.
- (5) Remove the connectors with lead wires, which runs from the mechanism circuit board, from the circuit board. Audio circuit board side

3P connector CN302 CN303
6P connector CN301

Mechanism circuit board side

4P connector CN2

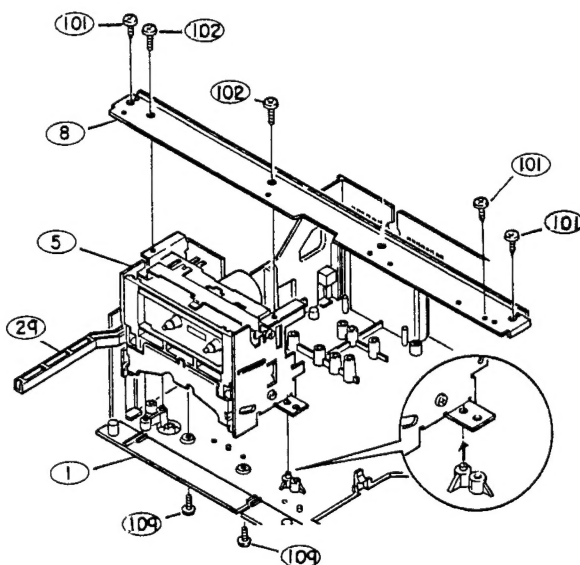
7P connector CN3

Note: When assembling, check to make sure the connectors are inserted correctly.

- (6) Pull out the power switch lever (29) from the power switch (39).
- (7) Remove the eject knob (16).
- (8) The mechanism can be removed by holding the mechanism and pulling up.

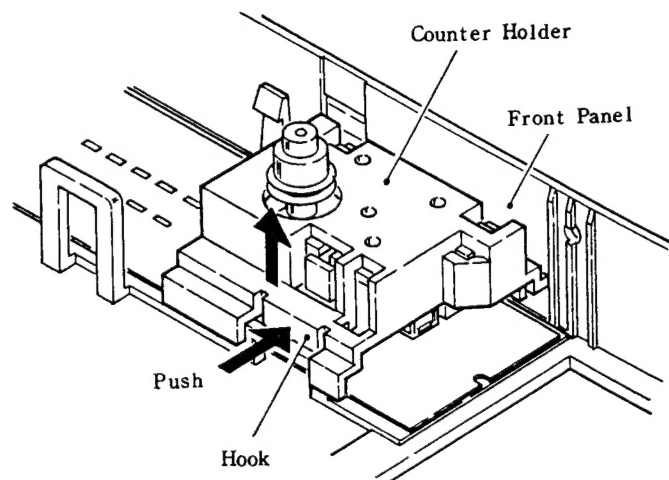
Note: When assembling, do so after the following checking.

1. The 2 stay holes on the lower side of the mechanism unit are matched with the chassis protrusions.
2. The chassis guide hole are matched with the protrusion on the lower side of a stay.
3. The Head wire is not placed between mechanism unit and the chassis.



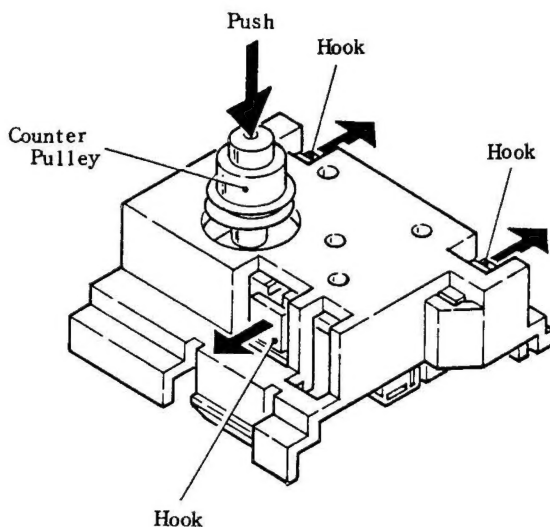
3. Removal of Counter

- (1) Remove Top Cover (36) and Front Panel (18). (Refer to Section 1)
- (2) Counter Holder (25) is fixed to the Front panel (18) by 2 hooks. By spreading out the hook on the lower side of this Counter Holder (25), you can take out the counter (26) in the built-in condition.



- (3) Counter (26) is fixed to the Counter Holder (25) by 3 hooks.

By spreading out the 3 hooks of the Counter Holder while pushing the pulley on the bottom side of the Counter, you can take out the Counter.

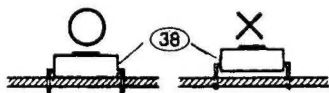


4. How to Remove the Control Circuit Board

- (1) Remove the top cover (36) and the front panel (18). (Refer to Section 1)
- (2) By unscrewing 4 screw (2.6x8 CBTS P tight) (106) holding the control circuit board (3-5) and loosening the 2 screws (3x8 CBTS P tight) (101), the control circuit board and control button (19) can be removed.

Note: 1) When replacing the tact switch (38), always check to make sure that it is not floating above the circuit board. If it is floating, the switch will be in the on condition when the set is assembled.

- 2) Please check to make sure that the tact switch is operating correctly after assembled.



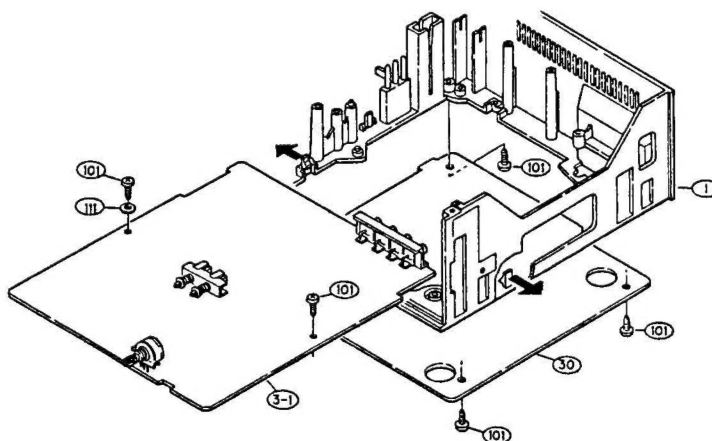
5. How to Remove the Audio Circuit Board

- (1) Remove the top cover (36) and the front panel (18). (Refer to section 1)
- (2) Pull out the volume knob (A) (32), the volume knob (B) (33), and the 2 volume knobs (C) (34).
- (3) Unscrew the nut holding the input volume (3-2), the output volume (4), and the bias volume (3-6) and remove the metal fittings holding the headphone jack (3-3).
- (4) By removing the 2 screws (3x6 CBS S tight) (102) holding the angle (8) and the 3 screws (3x8 CBTS P tight) (101), the angle and the volume holder (4) can be removed.

- (5) Remove the various connectors from the Audio Circuit Board and the Logic Circuit Board.

- (6) By removing the 2 screws (3x8 CBTS, P tight) holding the Audio Circuit Board (3-1) and washer (111) and spreading out the 2 hooks (located at right, left) on the chassis holding the audio circuit board to the direction arrow shows, the audio circuit board can be removed forward.

Note: Most repairs to the audio circuit board can be performed by removing the bottom cover on the chassis. Refer to the above procedure only when necessary.



6. How to Remove the Power Switch Circuit Board

- (1) Remove the top cover (36): (Refer to section 1)
- (2) Pull the power switch lever (29) out of the power switch (39).
- (3) By unscrewing the 1 screw (3x8 CBTS P tight) (101) holding the bracket (15) of the power switch circuit board (3-7) the power switch circuit board can be removed upwards.

ADJUSTING AND CHECKING THE MECHANISM SECTION

1. Replacing the Pinch Roller (14)

Before replacing the pinch roller, clean the tape contact surface of the pinch roller and the capstan shaft.

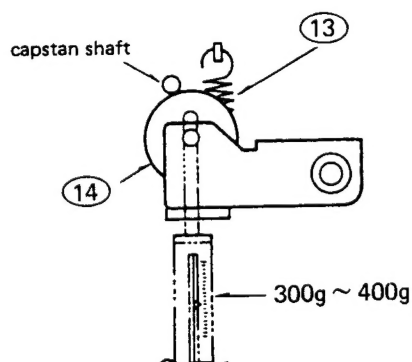
Most causes of poor tape transport can be traced to dirty pinch rollers and capstan shafts.

The pinch roller (14) can be removed by removing the spring (13) and the slit washer (106).

After replacing, run a padless C-90 tape to check for tape curls at the tape guide section of the head.

2. Checking the Pressure Force of the Pinch Roller

In the playback mode, hook a spring weight onto the bracket at the center of the pinch roller. After separating the pinch roller from the capstan shaft, allow the pinch roller to contact the capstan shaft again. Check to make sure the spring weight reads between 300 ~ 400g when the pinch roller starts to rotate. If it is not within the normal range, replace the pinch roller spring (13).



3. Replacing the Record/Playback Head

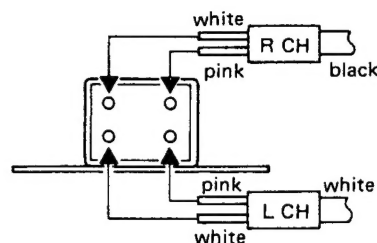
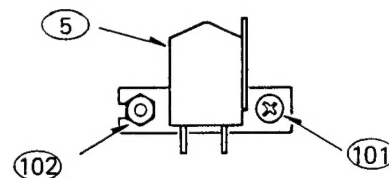
(1) How to remove the R/P HEAD.

- 1) Remove securing screw (101) and azimuth adjusting nut (102) from the record/playback head.
- 2) Remove the soldered head wire and disassemble the mechanical unit to remove the record/playback head.

(2) How to assemble the R/P HEAD.

Reverse the above (1) procedures for removing the R/P HEAD.

* Solder the HEAD WIRES according to the diagram.



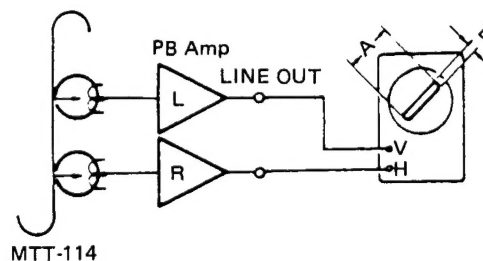
4. Adjusting the R/P HEAD

Azimuth adjustments

Play back the TEAC MTT-114 test tape. Turn the azimuth adjustment nut and adjust so that A of the surge wave from is maximum and B is minimum.

* After the adjustments, apply anaerobic adhesive on the positions indicated in the diagram.

Note: Only the azimuth adjustment is necessary; no height adjustments are required.



Note: Be sure to mount the head adjust spacer.

5. Replacing the ERASE HEAD (6)

(1) Unscrew the erase head holding screws (103).

(2) By unsoldering the HEAD WIRES can be taken off the mechanism unit.

6. Checking for Axis Direction Movements of the Capstan Shaft

Hold the capstan shaft from the front of the mechanism and move it in the axis direction; check to make sure some movement exists.

7. Checking the Take-up Torque

Load the cassette type torque meter. Check to make sure that the torque meter average reading is within 35 ~75 g-cm during playback. If it is not within this range, check the voltage (2.5 ~ 3V) of the reel motor. If the voltage is low, the torque will be weak; if it is high, the torque will be strong. In addition, check for reel thrust movement in section 8.

8. Adjusting the Reel Thrust Movement

Check to make sure that the reel thrust movement is within 0.2 ~ 0.4 mm.

9. Checking the FF and REW Torques

* When using the cassette type torque meter.

Check to make sure the torque meter indicates more than 70 g-cm at the end of FF and REW.

* When using a modified cassette half.

Load the modified cassette half; hook the end of the dial tension meter (full scale 100—300 g) onto the triangle section. In the FF (REW) mode, feed the tape in at a rate somewhat slower than the take up speed. Check to make sure the dial tension meter reads more than 60 g-cm.

10. Checking the Back Tension Torque During Record/Playback

Load the cassette type torque meter; check to make sure the torque meter reads between 2~5 g-cm during playback and that there is no unevenness.

If it is not within this range, check the section on adjusting the reel thrust movement; or else replace the spring (15).

11. Checking the FF and REW Times

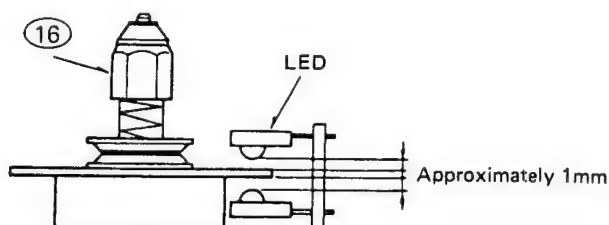
Load a C-60 cassette tape; check to make sure the tape is fast forwarded or rewound within 70—110 seconds. If it is not within this range, check sections 8 and 10.

12. Checking the Operation of the Erase Prevention, Metal and Chrome Switch

Confirm that the leaf switch properly detecting the tape type detection holes on the cassette housing.

13. Checking the Gap Between the Pulse Detection LED and the Reel Ass'y

Check to make sure the gap between the surface of the shutter section of the reel ass'y and the LEDs is approximately 1 mm.



ADJUSTING THE ELECTRICAL SECTIONS

• Measuring instruments necessary for adjustments

- (1) Audio signal generator
- (2) Variable resistance attenuator
- (3) Electronic voltmeter
- (4) Oscilloscope
- (5) Frequency counter
- (6) Adjustment screwdriver
- (7) Trap coil adjustment square stick
- (8) Test tapes (TEAC MTT-111, MTT-114, MTT-150) (A-BEX TCC-262) (DENON HD7E/60)
- (9) Transport Check cassette tape (SONY MC-112C)

• Caution on adjusting

- (1) Before adjusting, clean the head surface, capstan and the pinch roller with a gauze or a cotton swab moistened with alcohol.
- (2) Demagnetize the R/P HEAD and the E, HEAD with a head eraser.
- (3) Completely demagnetize the adjustment screwdriver.
- (4) Unless instructed otherwise, set the various controls as follows:
 - INPUT volume maximum
 - OUTPUT LEVEL volume maximum
 - DOLBY NR switch OFF
 - BIAS volume Center click position

1. Tape Transport Check

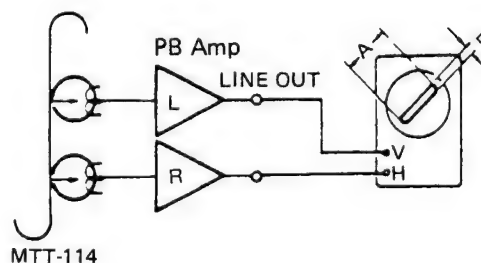
Load the transport check cassette. In the operational mode, illuminate the fixing guides of the R/P HEAD with a lamp and check to make sure the tape edge does not come in contact with the tape guide section.

The tape transport is the most important element in determining the performance of a cassette deck.

Avoid moving the various adjustment screws, nuts, etc., as much as possible. Refer to the pages on "Adjusting and Checking the Mechanism Section" when replacing or adjusting the R/P HEAD.

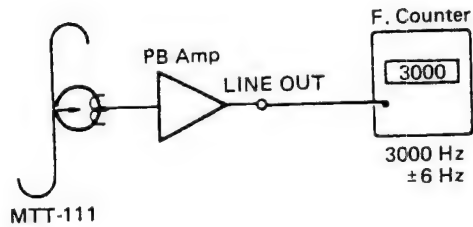
2. Adjusting the Azimuth

- (1) After completing the tape transport check, load the test tape (TEAC MTT-114).
- (2) Play back the test tape; adjust the azimuth screw so that section A of the resurge wave form is maximum and section B is minimum.

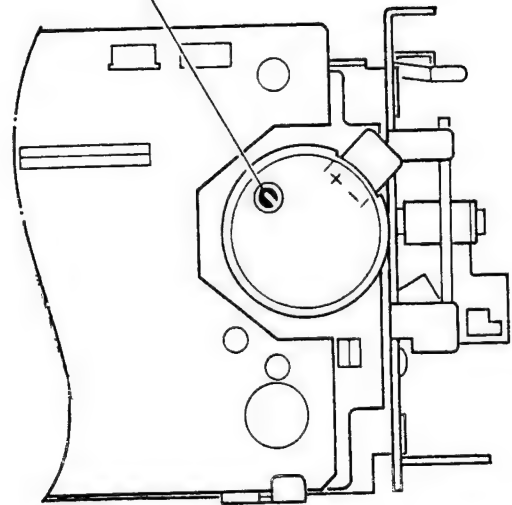


3. Checking and Adjusting the Tape Speed

- (1) Connect the frequency counter to the LINE OUT terminal and load test tape (TEAC MTT-111).
- (2) Playback a test tape. At about halfway through the tape, where the tape transport is stable, adjust the adjustment points on the back of the capstan motor so that the frequency counter will have a reading within the range of $3,000 \text{ Hz} \pm 6 \text{ Hz}$.



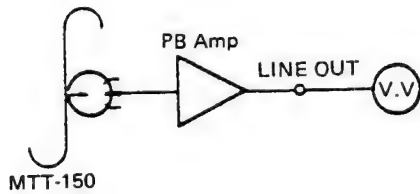
Adjustment Points



4. Adjusting the Playback Section

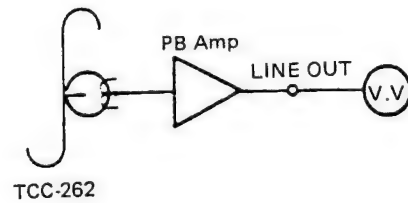
- (1) Adjusting the playback level

Playback the Dolby standard level test tape (TEAC MTT-150) and adjust RT-101 (L ch), RT-201 (R ch) so that the LINE OUT voltage becomes 0 dB (0.775 V).

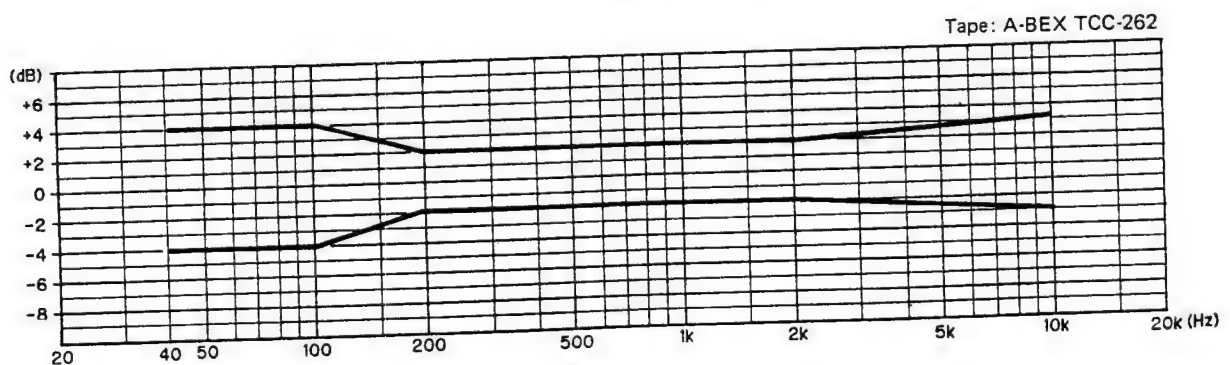


- (2) Adjusting the playback frequency response

Playback the test tape (A. BEX TCC-262) and check to make sure that the frequency response meets the specifications in the diagram.

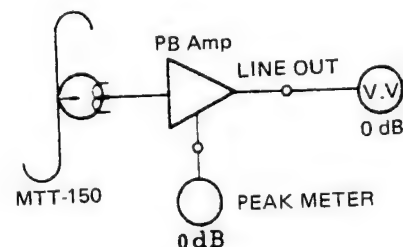


Playback Frequency Response



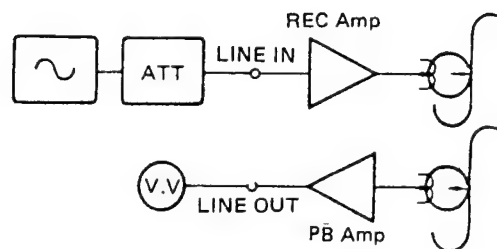
5. Adjusting the Peak Meters

After adjusting the playback level, playback the test tape (TEAC MTT-150) and adjust RT-102 (L ch), RT-202 (R ch) so that the Peak meters indicate 0 dB when the LINE OUT terminal level is 0 dB (0.775V).

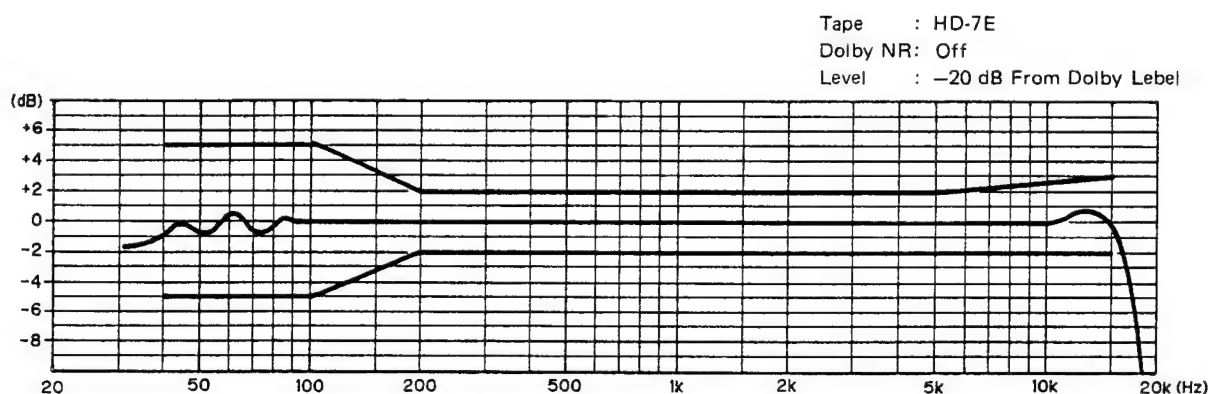


6. Adjusting the Recording Section

- (1) Adjusting the record/playback overall frequency response. (CrO₂)
 - 1) Load the test tape HD7E/60, record a signal with an input level of -40 dB, 1 kHz at the LINE IN terminal; play back this recording.
 - 2) Change the frequency of the input signal to 10 kHz, record and playback; adjust RT-104 (L ch), RT-204 (R ch) so that the characteristic standards meet the following diagram when compared to the 1 kHz signal output level.
(The other TAPE POSITIONS will automatically be adjusted by finishing of the foregoing adjustments.)



Record/Playback Overall Frequency Response



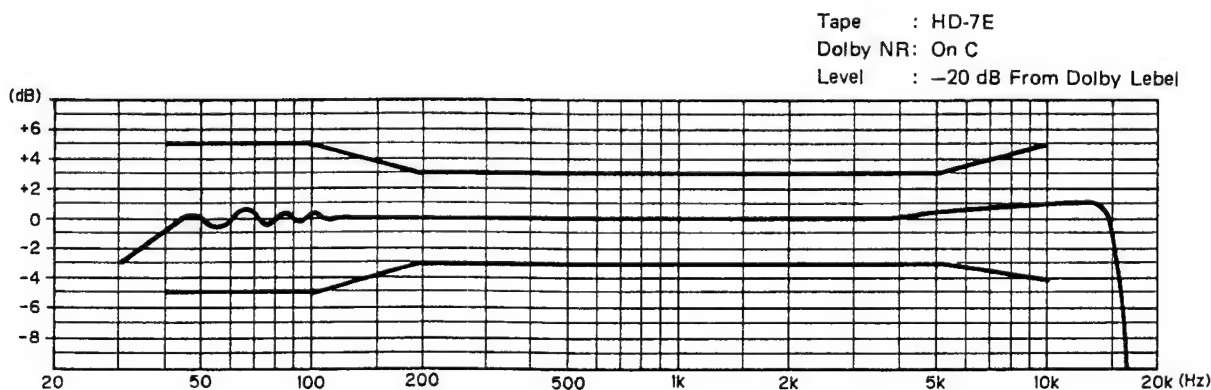
(2) Adjusting the record/playback levels (CrO₂)

- 1) Load a HD7E/60 tape and after having recorded a signal of 1 kHz (-40 dB), play it back.
- 2) Adjust RT-103 (L ch) and RT-203 (R ch) so that the output from the line out terminal has the same value as the output when monitoring the recording.

(3) Checking the Dolby C record/playback overall frequency response

- 1) Set the DOLBY NR switch to the "C" position.
- 2) Using the test tapes HD7E/60, perform record/playback in the same manner as 6-(1).
- 3) Check to make sure that the record/playback overall frequency response meets the specifications in the diagram.

Dolby C Record/Playback Overall Frequency Response



PARTS LIST OF P.W. BOARD

KU-5630 AUDIO AMP UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTOR GROUP			
IC101 201	2630353002	TEA0665	
IC301 303 305	2630189001	M5218L	
IC302	2630364004	M5219L	
IC304	2630355000	AN6256	
IC501 601	2630363005	AN6882	
TR101 201 103 203 109 209 301 302	2730245023	2SC2603 (E/F)	
TR102 202	2750043014	2SK381 (C/D)	
TR104 204 105 205	2730178006	2SC1740 (R/S)	
TR106 206 107 207	2710101022	1SA933 (Q/R/S)	
TR303	2740036002	2SD468 (C)	
TR304 307 309 352	2730178006	2SC1740 (R/S)	
TR305 306 308	2710101022	2SA933 (Q/R/S)	
TR310	2730178006	2SC1740 (R/S)	
TR311 354	2710101022	2SA933 (Q/R/S)	
TR351	2740078031	2SD882 (Q/P)	
TR353	2720055029	2SB772 (Q/P)	
D301 ~304 306 307 309 352 ~354	2760049008	1S2076	
D305	2760401002	1SS133	
D351	2760246005	RB152	
D355	2760057003	V06B	
D356	2760237001	RV06	
D701 ~706	2760401002	1SS133	
ZD301 302	2760052082	HZ11A-3	
RESISTOR GROUP			
VR301	2118075006	V1611V-503KA	INPUT VR 50KA
VR302	2110461003	V1620V20KA103	OUTPUT VR10KA
VR303	2110458003	V12V30KB501K	FINE VR 500ΩB
RT101 201	2116000028	V08PB104	PB GAIN 100K
RT102 202	2116000044	V08PB503	METER GAIN 50K


Ref. No.	Part No.	Part Name	Remarks
RT103 203	2116000073	V08PB203	REC GAIN 20K
RT104 204	2116000028	V08PB104	BIAS ADJ 100K
R323	2412313082	RD14B2E4R7JFRF	4.7Ω 1/4W
△R708	2410163001	RD14B2H121J	120Ω 1/2W
CAPACITOR GROUP			
C316	2544128006	CE04W1A220=	22μF 10V
C104 204 132 232 301 302	2544129005	CE04W1A470=	47μF 10V
C353 356	2544130007	CE04W1A101=	100μF 10V
C305 313 314	2544131006	CE04W1A221=	220μF 10V
C116 216 306 106 206 112 212 117 217 123 223 124 224 320	2544132005	CE04W1C100=	10μF 16V
C318	2544134003	CE04W1C330=	33μF 16V
C352 355	2544135002	CE04W1C470=	47μF 16V
C118 218 303 308	2544140000	CE04W1V4R7	4.7μF 35V
C358 C102 202 307 101 201	2544141009 2544146004	CE04W1V100= CE04W1H010=	10μF 35V 1μF 50V
C317 C359 C351 354 C108 208 114 214	2544148002 2544197024 2544198023	CE04W1H3R3= CE04W1C472M CE04W1E102M	3.3μF 50V 4700μF 16V 1000μF 25V
C109 209 115 215	2549014018 2549014047	CE04W1HR22M CE04W1HR68M	0.22μF 50V 0.68μF 50V
C120 220 C119 219 C134 234	2533627000 2533643000 2531055056	CC45SL1H101J CC45SL1H471J CK45B1H221K	100PF 50V 470PF 50V 220PF 50V

Ref. No.	Part No.	Part Name	Remarks
C127 227 136 236	2531004007	CK45B1H102K	0.001 μ F 50V
C126 226	2531061008	CK45B1H272K	0.0027 μ F 50V
C125 129 225 229	2531060009	CK45B1H182K	0.0018 μ F 50V
C315 C128 228 130 230	2531007004 2539030044	CK45B1H332K CK45=1E472K	0.0033 μ F 50V 0.0047 μ F 25V
C135 235	2539030060	CK45=1E103K	0.01 μ F - 25V
C309 C310 C107 207 113 213	2539030073 2539035007 2539031001	CK45=1E153K CK45=1E123K CK45=1E473K	0.015 μ F 25V 0.012 μ F 25V 0.047 μ F 25V
C133 233	2539031014	CK45=1E683K	0.068 μ F 25V
C312 C311 C103 203	2531024003 2554078065 2551120068	CK45F1H103Z CQ93P2A472J CQ93M1H332J	0.01 μ F 50V 0.0047 μ F 100V 0.0033 μ F 50V
C105 205 111 211 121 221	2551120084	CQ93M1H472J	0.0047 μ F 50V
C131 231	2551120097	CQ93M1H562J	0.0056 μ F 50V
C110 210	2551121025	CQ93M1H103J	0.01 μ F 50V
C122 222	2551121038	CQ93M1H123J	0.012 μ F 50V
C321 322	2544132005	CE04W1C100=	10 μ F 16V
C501 601	2542029000	CE02W1E4R7=	4.7 μ F 25V
C701	2542019007	CE02W1C330=	33 μ F 16V
C702	2538010007	CK45=2GAC103P	0.01 μ F 400VAC
OTHER PARTS GROUP			
LE501 601	3939299002	LN05302P (GN)	MPX FILTER
LE502 602	3939298003	LN03202P (RD)	
LE701 703 ~705	3939182009	LED (GN)	
LE702	3939180001	LED (RD)	
LE706 707	3939181000	LED (AB)	
	4410567207	LED HOLDER	
	4410633005	LED GUIDE	
J301	2048109013	HEADPHONE JACK	
J302	2048114008	4P PIN JACK	
L101 201	2320071005	DOLBY FILTER	

Ref. No.	Part No.	Part Name	Remarks
L102 202	2358011008	INDUCTOR	SKEWING
L103 203	2358005001	INDUCTOR	8.1 mH
L104 204	2328044005	BAND TRAP FILTER	BIAS TRAP
L301	2358005043	INDUCTOR	680 μ H
T301	2318056003	OSC COIL	
S301	2124578005	PUSH SWITCH	DOLBY NR SW
S303	2129190103	SLIDE SW	MPX SW
SW751 ~756	2124388004	TACT SWITCH	
	2129136028	POWER SW	
	FEP 1287	FUSE HOLDER	Except EC, EU
	2061031032	FUSE (0.16A)	Except Ec, Eu
	5138254011	FUSE LABEL	Except Ec, Eu
	4118343202	POWER SW BRACKET	
	2061031045	FUSE (0.25A)	E1 only
	5138254024	FUSE LABEL	E1 only
	4170140207	RADIATOR	
CN301	2035622082	6P MINI CONNE PIN	
CN302	2035622008	3P MINI CONNE PIN	
CN303	2035622008	3P MINI CONNE PIN	

• The carbon resistors rated at 1/4W are not listed herein.

WARNING:

Parts marked with  and/or shading have special characteristics important to safety.

Be sure to use the specified parts for replacement. Remarks symbols in the parts list refer to the following countries and areas.

EA: Australia	EC: Canada
E1: Multiple voltage model	EU: U.S.A.
E2: European continent	EK: United Kingdom

PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks
1	4118341806	CHASSIS	E1 only
"	4118341819	CHASSIS	
2	4118383000	SHIELD LABEL	
3-1	KU-56300	AUDIO UNIT	
-2	" 1	INPUT VR PWB	
-3	" 2	PHONE JACK PWB	
-4	" 3	METER/ING PWB	
-5	" 4	CONTROL PWB	E1, EA, EK E1 EU EC
-6	" 5	BIAS FINE PWB	
-7	" 6	POWER SW PWB	
4	4410568109	VOL. HOLDER	
5	3380091008	V. MECHA 15 UNIT	
6	4118347101	EARTH PLATE (A)	
7	4148198100	SHIELD BRACKET (V)	E1 only
8	4110482006	ANGLE	
△ 9	2335511107	POWER TRANS	
"	2335512009	"	
"	2335510205	"	
"	2335523001	"	
10	4118342517	TRANS BRACKET	E2 E1 EU, EC EA EK E2, EK EU EC E1 EA
"	4118342504	"	
△ 11	2062002031	AC CORD	
"	2006031026	"	
"	2062031002	"	
"	2006019310	"	
"	2062024006	AC CORD WITH LABEL	
△ 12	4450018004	CORD BUSH	EA only
"	4450020005	"	
"	MD-3802	"	
"	MD-2982H	"	
15	4118343202	POWER SW BRACKET	
16	4318102023	EJECT KNOB	
17	4318104102	EJECT PLATE	E1 only
18	1030825102	FRONT PANEL	
19	1138175233	CONTROL BUTTON	
20	4110488000	PRESS BAR	
21	1138179006	PUSH BUTTON (A)	
22	1130724006	BUTTON SHAFT	
23	4638623004	SPRING	E1 only
24	1290050209	COLOR FILTER	
25	4410566208	COUNTER HOLDER	
26	4590006002	COUNTER	
27	4318098108	PUSH SW LEVER	
28	4230040001	COUNTER BELT	
29	4318101024	P.S. LEVER	E1 only
30	1058089108	BOTTOM COVER	
31	4610162004	FELT PAD	
32	1120476102	VOL KNOB (A)	
33	1120477101	VOL KNOB (B)	
34	1128114000	VOL KNOB (C)	
35	1030827207	C.WINDOW ASS'Y	E1 only
36	1028319251	TOP COVER (BK)	
"	1028319277	"	
37	1338085000	REMOTE COVER LABEL	
38	2124388004	TACT SWITCH	
△ 39	2129136028	POWER SW	
40	2110461003	V1620V20KA103	E1 only
△ 41	2123315023	VOLTAGE SELECTOR	

Ref. No.	Part No.	Part Name	Remarks
101	4737500015	3x8 CBTS (P)-Z	E1 only
102	4737002005	3x6 CBTS (S)-Z	
103	4737004003	4x8 CBTS (S)-Z	
104	4737501001	3x10 CBTS (P)-Z	
105	4713303016	3x6 CBTS (P)-Z	
106	4737505007	2.6x8 CBTS (P)-Z	
107	4737003004	3x8 CFTS (S)-Z	
108	4737500044	3x8 CBTS (P)-Z	
109	4737002018	3x8 CBTS (S)-Z	
110	4737503025	4x8 CTTS (P)	
111	4751106042	WASHER	
112	4730359014	3x16 CRTS (Z)	

ACCESSORIES GROUP

Ref. No.	Part No.	Part Name	Remarks
△	2032101001	2P CONNECTOR CORD	EU only E1 only
	5111332002	INST. MANUAL	
	5111333001	"	
	2033667007	PLUG ADAPTER	

PACKING GROUP

Ref. No.	Part No.	Part Name	Remarks
	5011066203	CARTON CASE	EA only
	5011103001	"	
	5038054007	PACKING	EA only
	5038049009	SUB PACKING	
	5058006048	ENVELOPE	

WARNING:

Parts marked with △ and/or shading have special characteristics important to safety.

Be sure to use the specified parts for replacement. Remarks symbols in the parts list refer to the following countries and areas.

EA: Australia EC: Canada
E1: Multiple voltage model EU: U.S.A.
E2: European continent EK: United Kingdom

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EXPLODED VIEW OF CABINET AND CHASSIS GROUP

A

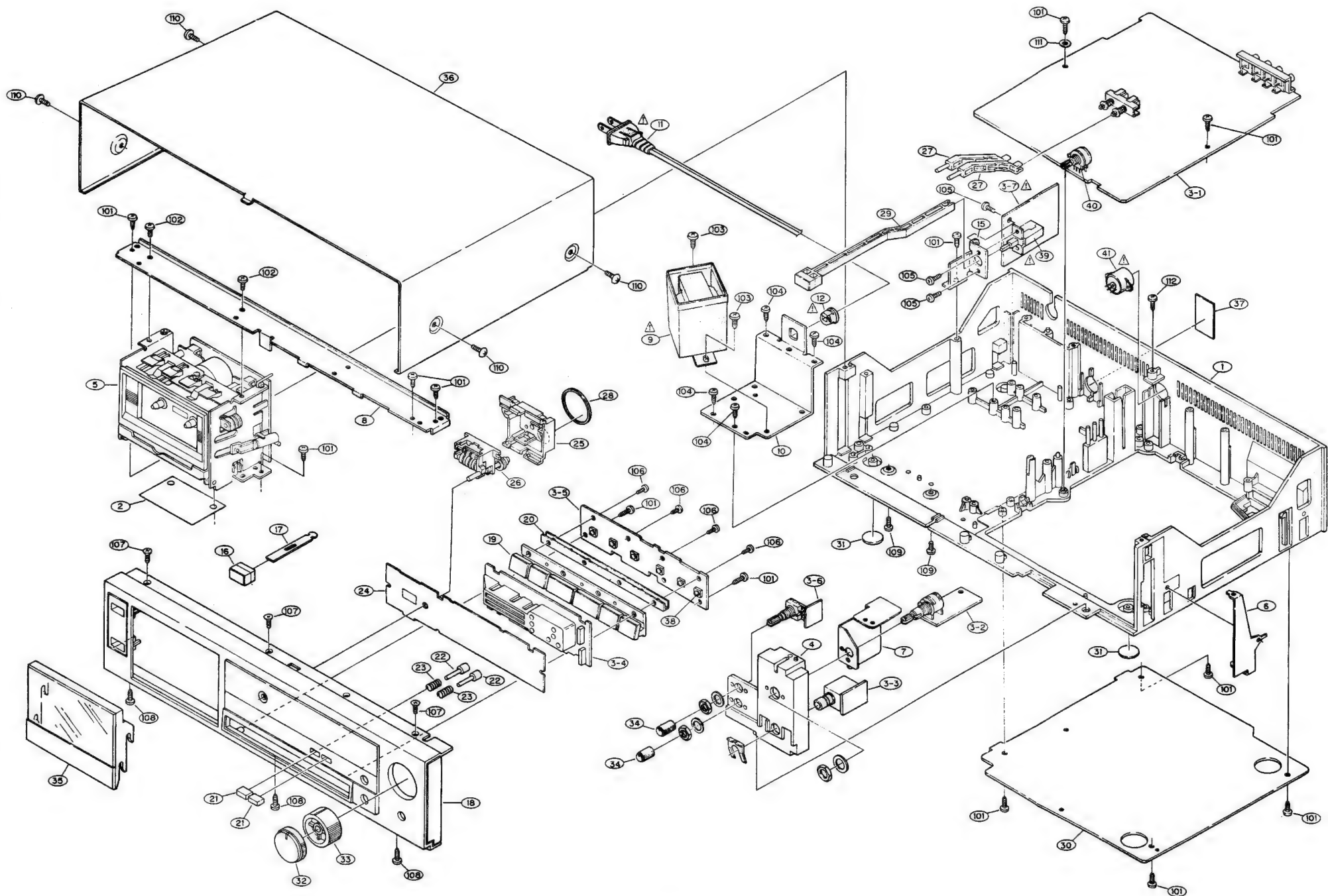
B

C

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F



KU-5700 MECHA PWB UNIT

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTOR GROUP			
IC1	2620617004	μPD7506C-066	22K—47K
IC2, 3	2620447009	BA6109U1	
TR1, 2	2690015005	DTC124XS	
TR5, 6	2711010022	2SA933 (Q/R/S)	
TR7	2730178019	2SC1740 (R/S)	
D1~8	2760049008	1S2076	
D9, 10	2760401002	1S5133	
ZD1	2760218046	HZ981	
ZD3	2760173084	HZ6C-1	
ZD4	2760185056	HZ4C-3	
ZD5	2760185027	HZ4B-2	
ZD6	2760303003	HZ6C2	
ZD2	2760173071	HZ6C3	
RESISTOR GROUP			
R6	2440082026	RS14B3D470JN8F	47Ω
R81	2462010092	RK99-28104MP4	100KΩ
VR1	2124555002	ROTARY ENCODER	1/8W
CAPACITOR GROUP			
C1, 3, 12 14, 17	2531025002	CK45F1H223Z	0.022μF 50V
C2, 4	2531024003	CK45F1H103Z	0.01μF 50V
C5	2539014002	CK45=1E683M	0.068μF 25V
C10, 11	2544146004	CE04W1H010=	1μF 50V
C13	2544224007	CE04WQJ222M	2200μF 6.3V
C15, 16	2544147003	CE04W1H2R2=	2.2μF 50V
CB1	2531164002	CK98B1H102MP6	0.001μF 50V
OTHER PARTS GROUP			
LE10	3939178000	LN25RCP	
TR10	3939026013	PNT50C	
CN1, 2	2035622024	4P MINI CONNE PIN	
CN3	2035622037	8P MINI CONNE PIN	
CN4	2035622008	3P MINI CONNE PIN	
CN6	2035622066	5P MINI CONNE PIN	
W005	2090110034	TERMINAL WIRE	

• The carbon resistors rated at 1/8W are not listed herein.

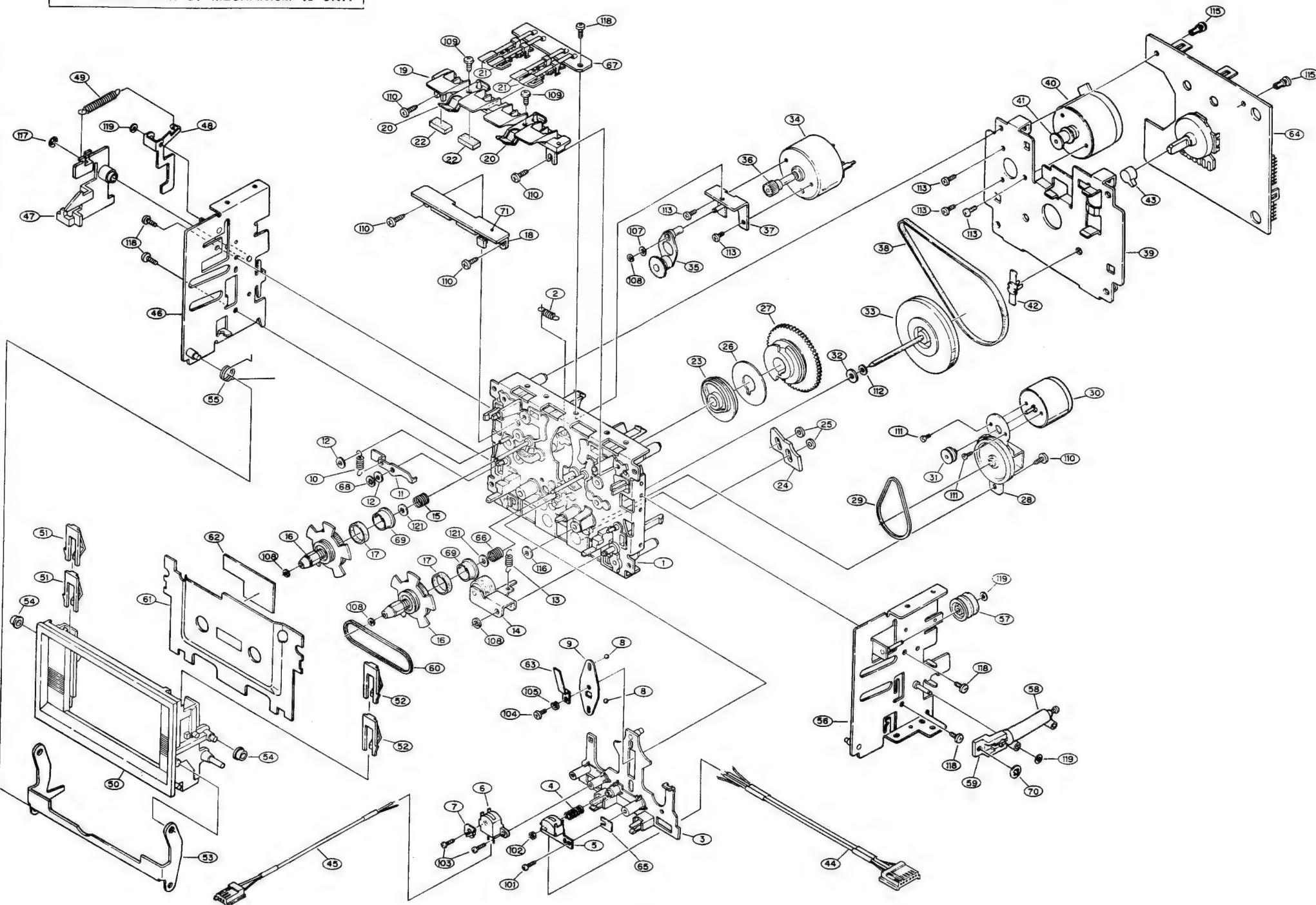
PARTS LIST OF MECHANISM 15 UNIT

Ref. No.	Part No.	Part Name	Remarks
1	4110469207	MECHA BASE ASS'Y	
2	4630420001	SPRING	
3	4310181204	HEAD PLATE ASS'Y	
4	4630428003	SPRING	
5	3910068003	R/P HEAD	
6	3910068002	E HEAD	
7	4630451009	E HEAD EARTH	
8	4250177006	STEEL BALL D3.5	
9	4630418204	HEAD PLATE SPRING	
10	4630453104	RETURN SPRING	
11	4330425102	STOPPER	
12	4430426001	SPEED NUT	
13	4630456004	SPRING	
14	4330451008	P. ROLLER ARM ASS'Y	
15	4638261000	REEL ASS'Y	
16	4210331002	REEL RING	
17	4230042009	BRAKE RING	
18	4410546309	SENSOR HOLDER	
19	4110471208	SWITCH HOLDER	
20	4630422203	CASSETTE SPRING	
21	2124577307	LEAF SWITCH	
22	4610265008	CUSHION	
23	4240080103	CAM (2)	
24	4310180302	PINCH LEVER	
25	4430426001	SPEED NUT	
26	4121853006	SEPARATER	
27	4240079101	CAM (1)	
28	4410580006	PULLEY GEAR ASS'Y	
29	4230037001	BELT	
30	2170133009	CAM MOTOR	
31	4210319105	PULLEY (1)	
32	4258058004	WASHER	
33	4210328206	FLYWHEEL ASS'Y	
34	2170134008	REEL MOTOR	
35	4240109107	DIRECTION GEAR ASS'Y	
36	4240102104	MOTOR GEAR ASS'Y	
37	4410612107	MOTOR PLATE ASS'Y	
38	4230038000	BELT	
39	4121841102	BACK PLATE	
40	2170132000	CAPSTAN MOTOR	
41	4210327100	PULLEY	
42	4610246108	THRUST STOPPER	
43	4350094102	CONNECTING PIECE	
44	2041637003	6P EI CON SHIELD	
45	2034291003	3P "	
46	4410550104	LEFT STAY ASS'Y	
47	4338269409	HOOK	
48	4310197007	SWITCH LEVER	
49	4630457003	SPRING	
50	1038242305	C. BOX (A)	
51	1038243304	CASSETTE SUPPORT (L)	
52	1038243317	" (R)	
53	4338270511	CASSETTE BOX (B)	
54	4318097002	COLLAR	
55	4638236116	BOX SPRING	
56	4410548006	RIGHT STAY ASS'Y	
57	4210332001	COUNTER PULLEY	
58	4698013104	AIR DUMPER	
59	4338271400	DAMPER GUIDE	
60	4230039009	BELT (A)	
61	1441351100	ESC PLATE	
62	4610276107	DAMP SHEET	
63	4630452008	ESC EARTH	
64	KU-5700	MECHA PWB UNIT	
65	4428126009	HEAD ADJUST SPACER	

Ref. No.	Part No.	Part Name	Remarks
66	4630462001	SPRING	
67	KU-5700-2	HOLE SENS. PWB	
68	4770266002	CS WASHER	
69	4210374001	BUSH	
70	4770266015	CS WASHER	
71	KU-5700-1	REEL PULSE PWB	
101	4713812002	2x8 CBS-B	
102	4756020000	2N	
103	4737507005	2x8 CBTS (P)-B	
104	4713204018	2.6x8 CBS-Z	
105	4752002006	2.6 SW	
106	4751121108	SLIT WASHER	
107	4770090003	WASHER	
108	4751119107	SLIT WASHER	
109	4737500002	3x6 CBTS (P) Z	
110	4737500015	3x8 CBTS (P) Z	
111	4719004005	M1.7 x 2 #0	
112	4770090016	WASHER	
113	4713802012	2.6x3 CBS-Z	
115	4770090007	PUSH RIVET	
116	4770090074	WASHER	
117	4761003009	3E RING	
118	4713202010	2.6x5 CBS	
119	4751120108	SLIT WASHER	
120	4751121111	SLIT WASHER	
121	4770265018	WASHER	

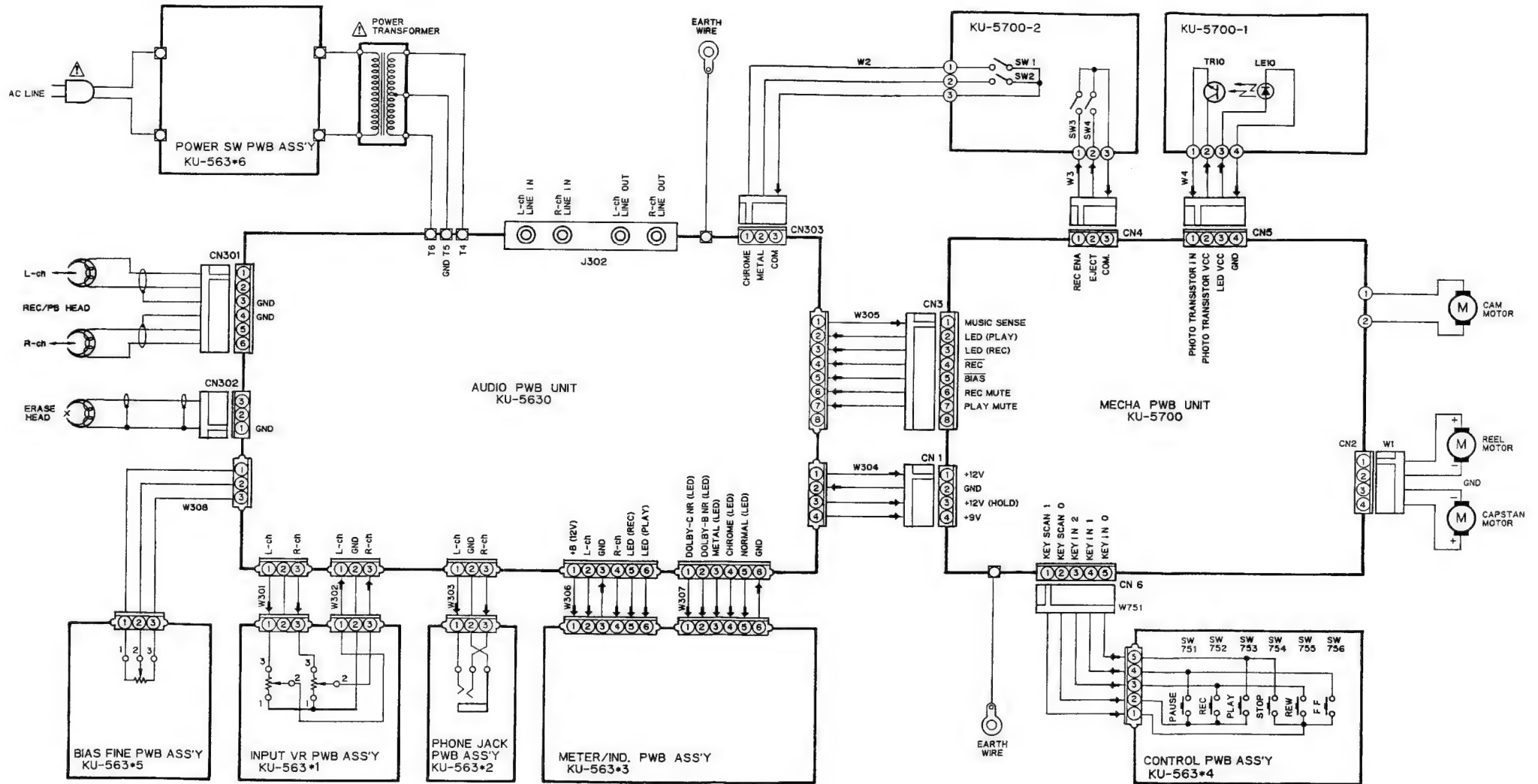
EXPLODED VIEW OF MECHANISM 15 UNIT

A
B
C
D
E
F



WIRING DIAGRAM

(After alteration)

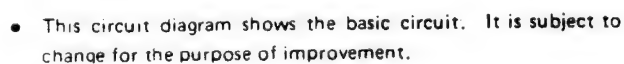


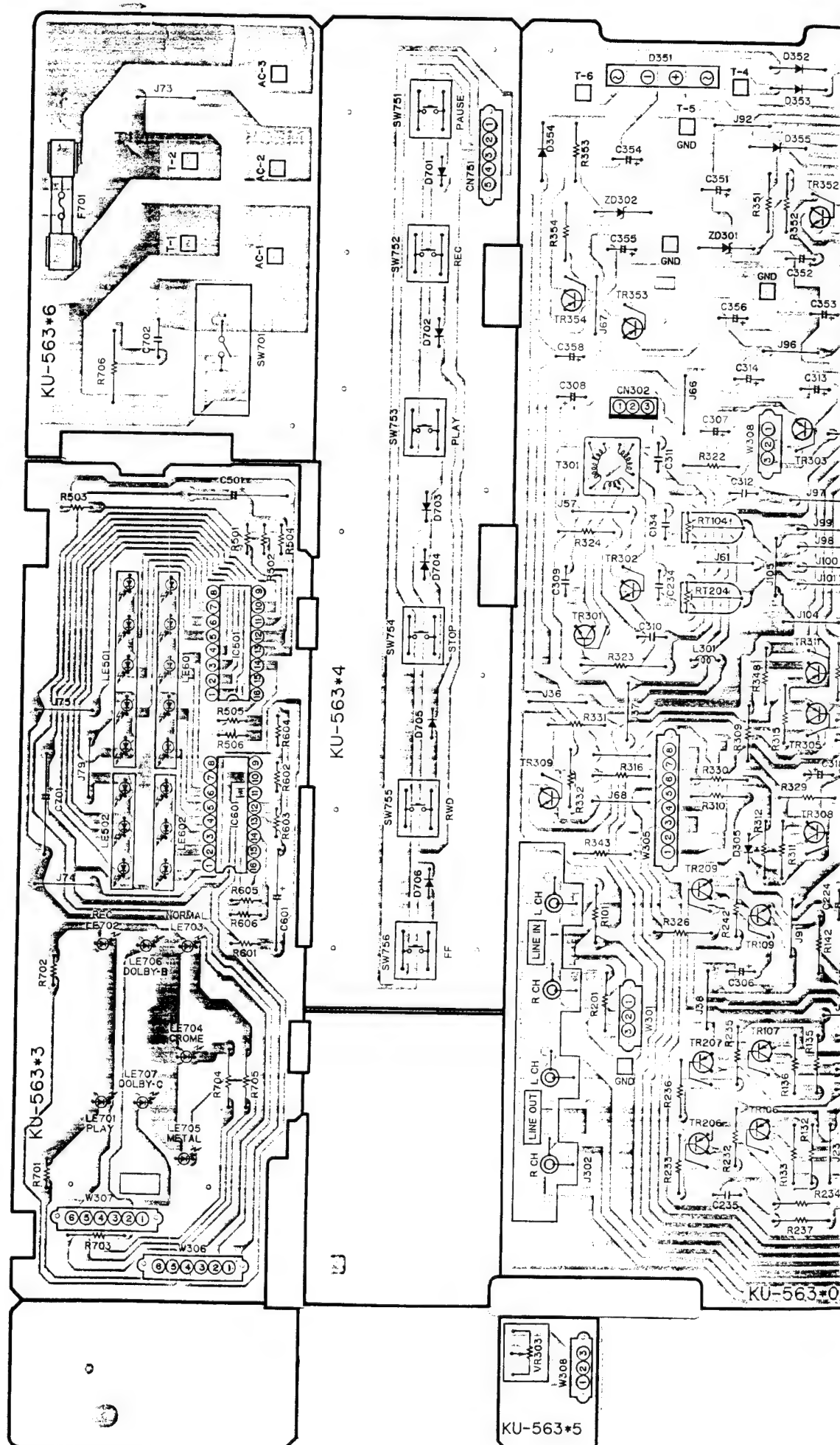
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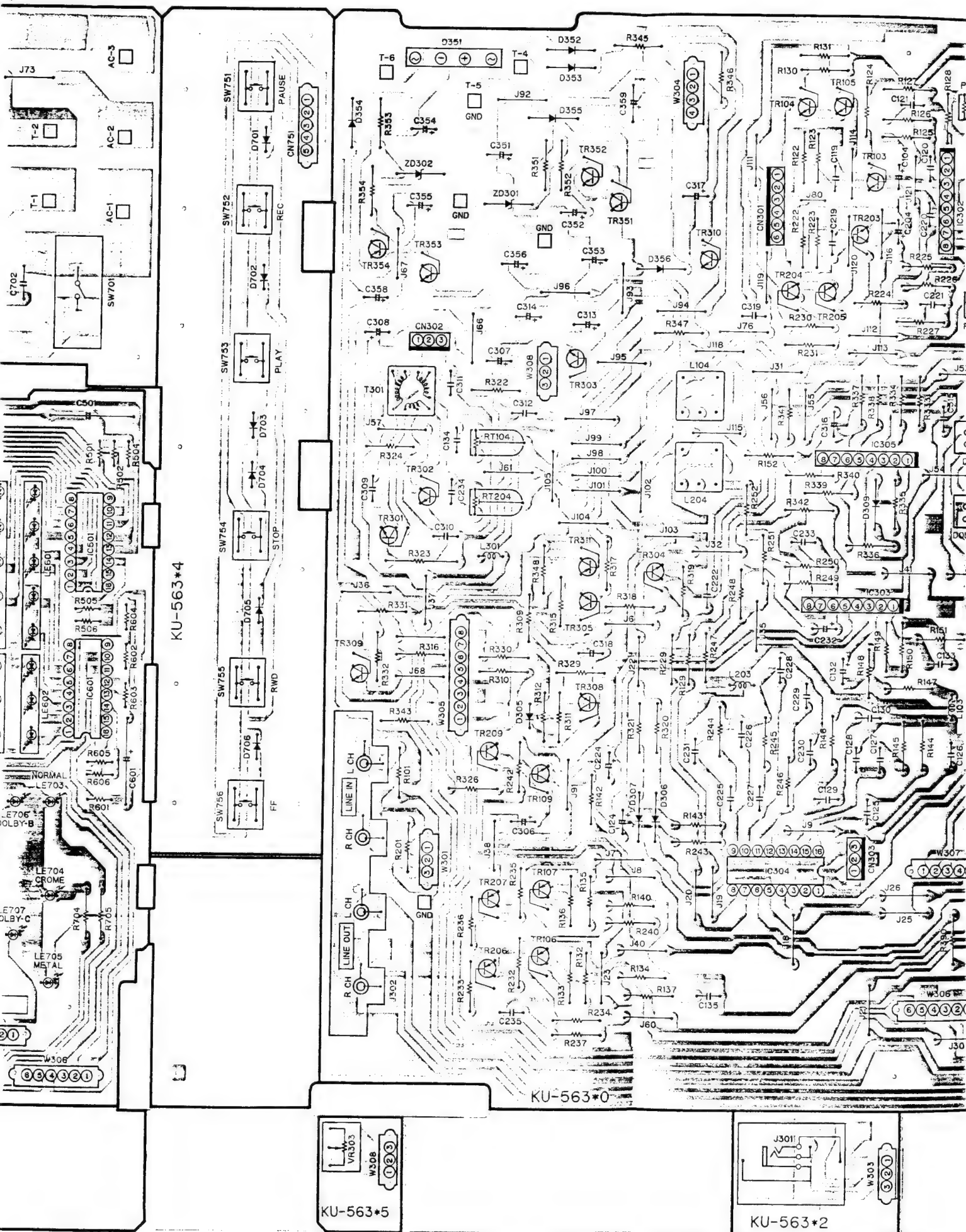


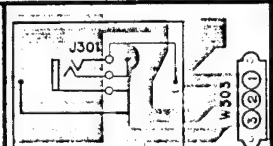
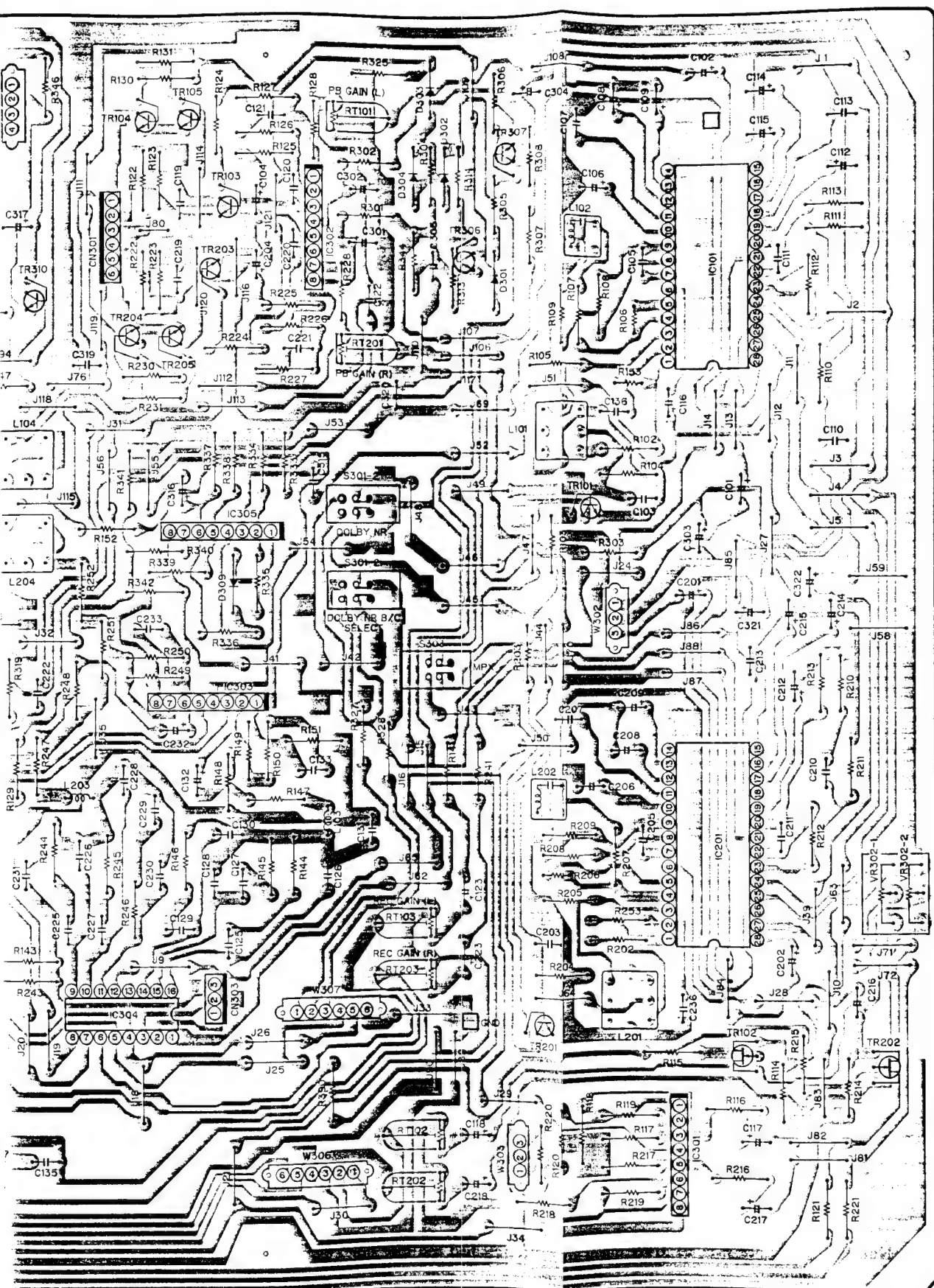
Note:

- Resistance shall be $1/4W$ unless otherwise specified and the unit is Ω .
- The unit of capacitor is μF , P is pF unless otherwise specified.

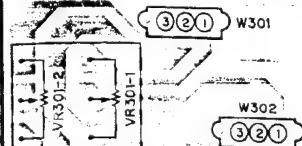


F





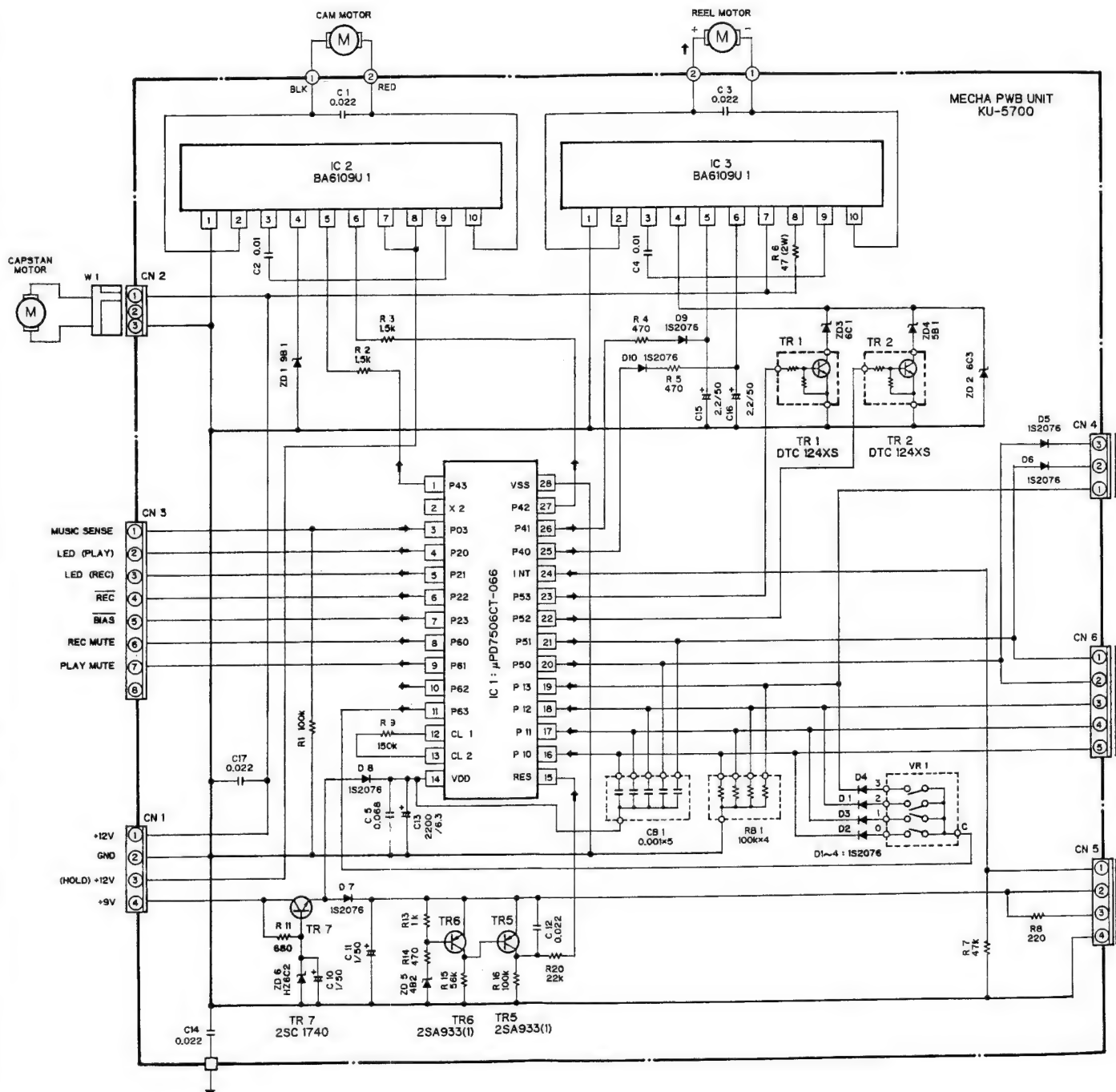
KU-563*2



KU-563*1

SCHEMATIC DIAGRAM OF MECHANISM UNIT

(Before alteration)



- Note:**
- Resistance shall be 1/4W unless otherwise specified and the unit is Ω .
 - The unit of capacitor is μF , P is pF unless otherwise specified.
 - This circuit diagram shows the basic circuit. It is subject to change for the purpose of improvement.

The image contains three separate circuit diagrams, each for a different module. The first diagram, labeled KU-5700-2, shows two switch assemblies. The first assembly has three terminals (1, 2, 3) connected to switches SW 1 and SW 2, which are labeled CHROME SWITCH and METAL SWITCH respectively. The second assembly has three terminals (3, 2, 1) connected to switches SW 3 and SW 4, labeled REC ENABLE SWITCH and EJECT SWITCH. The second diagram, labeled KU-5630-4, shows a 5-pin connector with pins 1 through 5. Pin 1 is connected to a PAUSE switch (D701). Pin 2 is connected to a REC switch (D702). Pin 3 is connected to a PLAY switch (D703). Pin 4 is connected to a STOP switch (D704). Pin 5 is connected to a REW switch (D705). A common line from the bottom of the switches goes to a FF switch (D706). The third diagram, labeled KU-5700-1, shows a 4-pin connector with pins 1 through 4. Pin 1 is connected to the base of a transistor. Pin 2 is connected to the emitter. Pin 3 is connected to the collector. Pin 4 is connected to GND. The transistor is labeled TR 10 PN 150C. The collector is also connected to a 10V LED labeled LE 10 LINEARCP.

KU-5700-2

W2

CHROME

METAL

COM.

SW 1

SW 2

CHROME SWITCH

METAL SWITCH

REC ENA

EJECT

COM.

SW 3

SW 4

REC ENABLE SWITCH

EJECT SWITCH

KU-5630-4

SCAN 1

SCAN 0

YIN 2

YIN 1

YIN 0

PAUSE

REC

PLAY

STOP

REW

FF

D701

D702

D703

D704

D705

D706

D701~706 : 1SS133

KU-5700-1

LED W

TRANSISTOR VCC

LED VCC

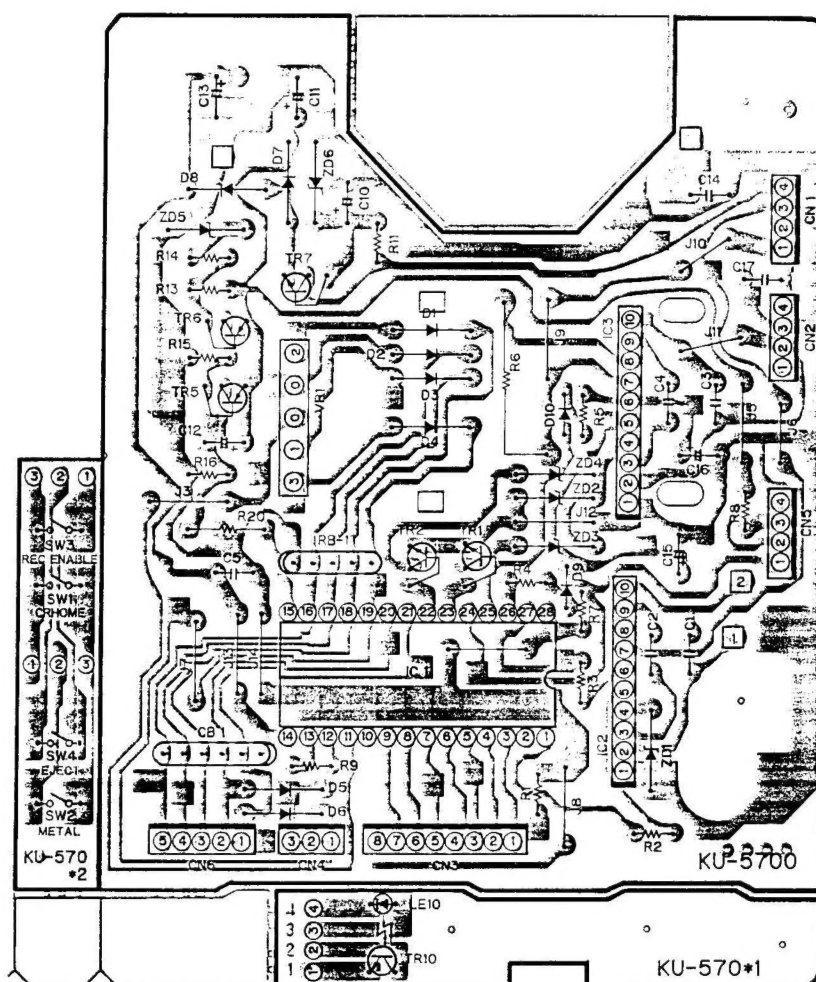
GND

TR 10

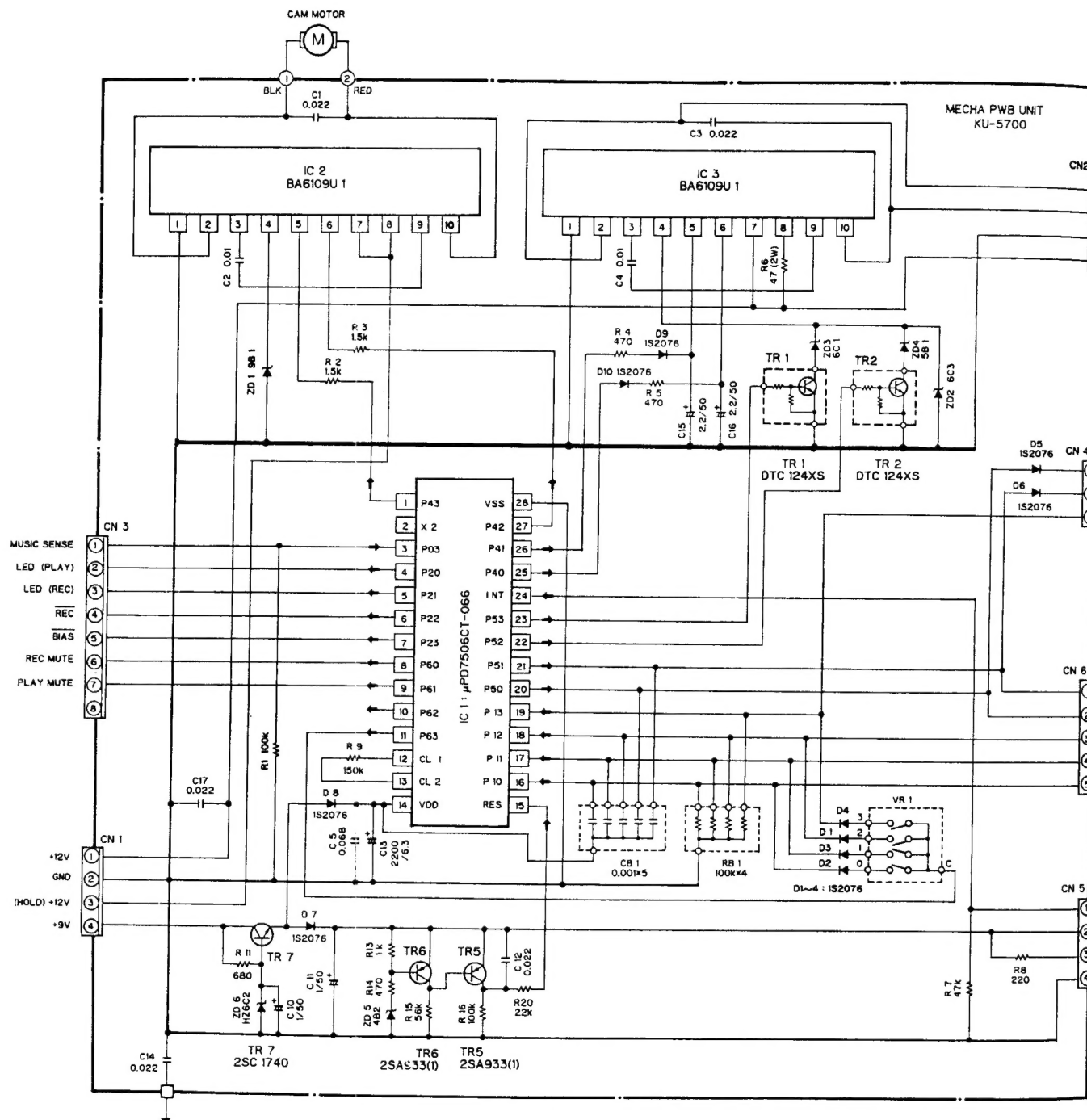
PN 150C

LE 10

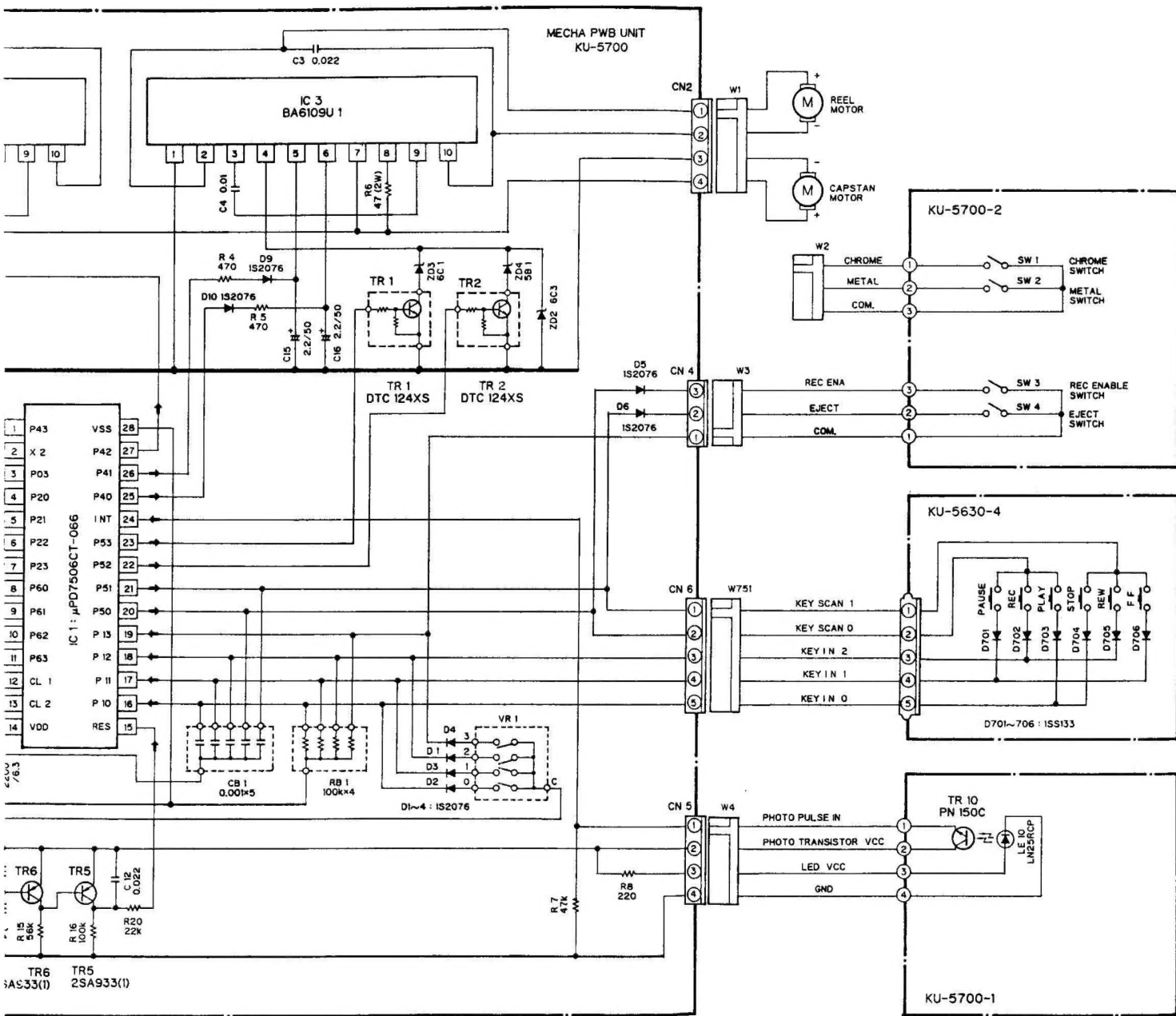
LINEARCP



(After alteration)



- Note:**
- Resistance shall be 1/4W unless otherwise specified and the unit is Ω .
 - The unit of capacitor is μF , P is pF unless otherwise specified.
 - This circuit diagram shows the basic circuit. It is subject to change for the purpose of improvement.



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1

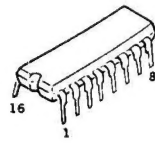
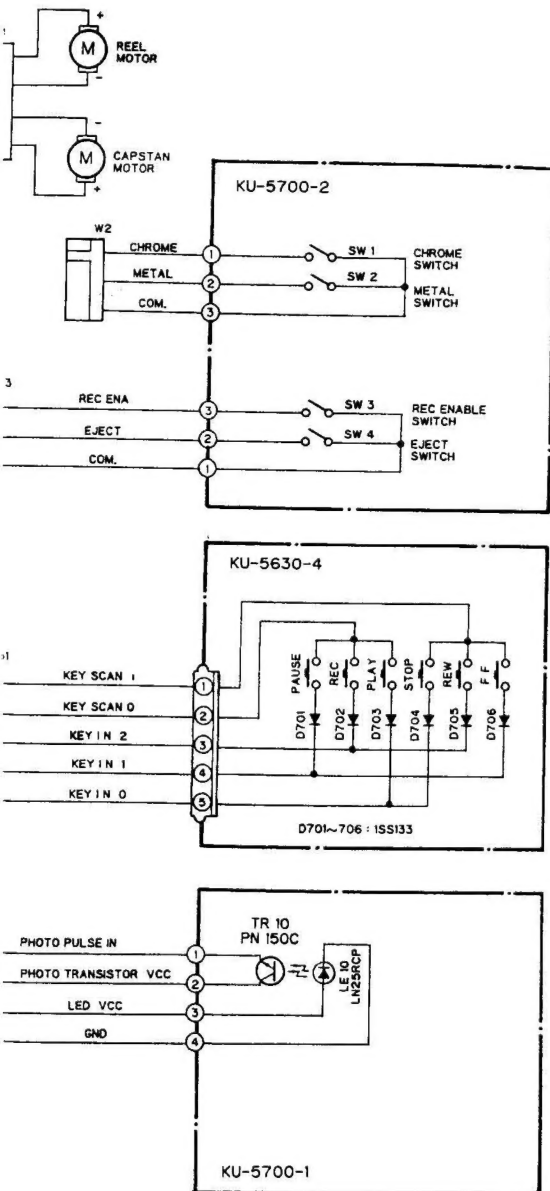
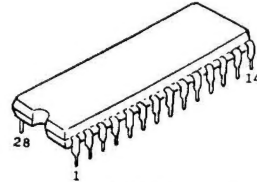
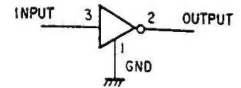
E

2SA
2SC
2SC
2SC
2SD

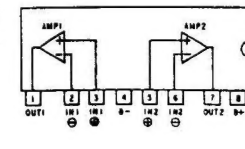
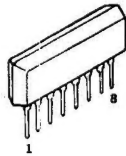
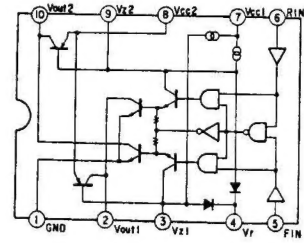
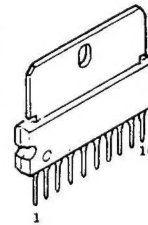
be 1/4W unless otherwise specified and the

itor is μF , P is pF unless otherwise specified.
am shows the basic circuit. It is subject to
pose of improvement.

SEMICONDUCTORS

AN6256
AN6882μPD7506C-066
TEA0665

DTC124XS

M5218L
M5219L

BA6109



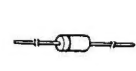
RV06



V06B



1S2076

HZ4B2
HZ4C3
HZ6C1
HZ6C2
HZ6C3
HZ9B1
HZ11A3

1SS133

2SA933
2SC1740
2SC2060
2SC2603
2SD468

2SK381

2SB772
2SD882

RB152